

**APPLICATION TO THE DEPARTMENT OF THE ENVIRONMENT,
WATER, HERITAGE AND THE ARTS ON THE**

Shark Bay Snapper Managed Fishery

*Against the Guidelines for the Ecologically Sustainable Management of
Fisheries*

July 2009



**Government of Western Australia
Department of Fisheries**

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1. BACKGROUND

The purpose of this report is to update the Department of the Environment, Water, Heritage and the Arts (DEWHA) on changes in the Shark Bay Snapper Managed Fishery (SBSMF) to enable the re-assessment of the SBSMF against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Previous Assessment

In May 2002, the Western Australian Department of Fisheries (the Department) submitted an application to DEWHA for assessment of the SBSMF against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, pursuant to Part 13A of the EPBC Act.

On 7 June 2004, Ian Creswell, as delegate of the (then) Minister for the Environment and Heritage exempted the SBSMF pursuant to Part 13A of the EPBC Act for five years, allowing the SBSMF to export product until 30 June 2009, and subject to twelve recommendations.

A copy of the Department's application and the DEWHA assessment report and letter of approval are available on the DEWHA website at:

<http://www.environment.gov.au/coasts/fisheries/wa/snapper/index.html>

Re- Assessment Process

The documentation attached to enable the re-assessment of the SBSMF consists of:

1. a summary of the key changes in the SBSMF since 2004;
2. a report addressing the progress of the SBSMF against each of the 12 WTO recommendations;
3. a copy of the SBSMF annual reports, published in the annual State of the Fisheries Report (SoF Report) over the past five years (see Gascoyne Coast Bioregion; Appendix 1);
4. ancillary information to assist in the re-assessment process (2009 Stock assessment report for Shark Bay oceanic pink snapper stock, Appendix 2; Moran et al. 2005; Appendix 3; Ecological Risk Assessment: Risk Rating Re-Assessment Appendix 4); and
5. a **confidential** copy of Compliance Risk Assessment for the SBSMF.

Should you require any further information, please contact Matt Stadler on (08) 9941 1185 or via email: Matthew.Stadler@fish.wa.gov.au.

2. SUMMARY OF KEY CHANGES IN THE SBSMF SINCE 2004

- A 40% reduction in pink snapper (*Pagrus auratus*) quota, from 563,750kg to 338,250kg was legislated in the 2003/04 SBSMF season.
- In an effort to hasten the stock recovery, prawn and scallop operators who also hold SBSMF licences, voluntarily did not take their pink snapper quota in the 2004/05, 2005/06 and 2006/7 seasons. This resulted in an effective quota of 313 tonnes during this period.
- A Section 43 prohibition on fishing was implemented in May 2004 that prohibits wetline vessels that do not hold SBSMF licences from fishing within the waters of the SBSMF, in an effort to reduce depth-related mortality of pink snapper taken as bycatch. Following the introduction of these arrangements, a 70% decrease in wetline effort in the region was observed in 2005, which follows the 80% decrease seen in 2004.
- To complement this measure, an amendment to the *Shark Bay Snapper Management Plan 1994* made Coral Bay a landing port. Coral Bay was previously outside the waters of the SBSMF. Vessels operating from Coral Bay now either require pink snapper quota, with all pink snapper landed coming off their quota; or have to operate under the Department's Vessel Monitoring (VMS) to be able to demonstrate that the vessel is not operating within waters of the SBSMF.
- In 2006, the Department contracted an independent review of the pink snapper stock assessment model used in the SBSMF. The reviewer concluded that the model provided a good basis for management decision-making in relation to the status of the oceanic pink snapper stock and estimated stock sizes under various projected catches. The reviewer suggested a range of modifications, most of which were subsequently incorporated into the assessment model.
- A seven-month collaborative review of the SBSMF stock assessment model was conducted between industry representatives, Departmental scientists and managers between July 2006 and January 2007. In part, the review included a comprehensive analysis of catch and effort data for the period 1989-2006 to explore patterns in fishing behaviour, a study of different methods to estimate Catch Per Unit Effort (CPUE) for this fishery and a re-analysis of otolith-based ageing of snapper from waters off Shark Bay. The model was further refined and improved through this process.
- An additional 18% quota reduction from 338,250kg to 276,750kg was legislated in April 2007 in order to keep the stock on track to recover to 40% of its 1952 spawning biomass level by 2014 (i.e. 10 years from the initial quota reduction in 2004). The quota reduction has been in place for the 2006/07, 2007/08 and 2008/09 seasons. The stock assessment model was re-run again in early 2009 and a review of the total allowable catch will be undertaken in 2009 for the following season beginning 1 September 2009.
- A compulsory SBSMF Daily Trip Logbook was introduced in January 2008. The daily logbook provides finer scale spatial and temporal data, more comprehensive data on species composition, fishing effort and fishing practices and provides the ability for operators to more easily record any interactions with threatened or protected species.
- The Department's Vessel Monitoring System (VMS) was implemented in May 2008 for all SBSMF vessels to further improve the integrity of the quota monitoring system and spatial closures in the SBSMF.
- Licence conditions were introduced on 1 January 2009 that limit the number of days that can be fished by operators to a maximum of 30 days per 100 units (currently 5400kg) of pink snapper quota held. This interim measure was implemented in order to provide better protection to demersal scalefish other than pink snapper until the proposed Gascoyne Demersal Scalefish Management Plan is introduced. The "effort

cap” also prevented a potential shift of fishing effort from the West Coast Demersal Scalefish Fishery to the SBSMF.

- Information necessary to conduct a stock assessment for goldband snapper was collected from the waters of the SBSMF during 2007 and 2008 (including biological samples and catch and effort data from all sectors). A stock assessment for goldband snapper will be completed later in 2009.
- The recreational bag limit of pink snapper has been reduced from eight to six to four pink snapper per person, per day since 2004 (note the recreational sector includes the charter sector).
- A comprehensive, one-year recreational fishing creel survey was conducted between March 2007 and March 2008 to better quantify the recreational sectors catches of pink snapper and other key scalefish in the Gascoyne Bioregion.
- A voluntary recreational fishing logbook was developed as part of the Department’s Research Angler Program. This logbook has allowed recreational fishers to record and report on the species, numbers, lengths and locations of their catches throughout the Gascoyne, thereby enabling the Department to better estimate the catch taken by the recreational sector.

3. PROGRESS ON IMPLEMENTING RECOMMENDATIONS ON THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF THE SBSMF

- 1. DFWA to inform DEH, within 3 months, of changes to the legislated management plan that may affect the sustainability of the target species or negatively impact on by-product, by-catch, protected species or the ecosystem.**

The SBSMF continues to operate in accordance with the management regime in force under the *Fish Resources Management Act 1994* (FRMA). No amendments to the management regime have been made that adversely affect the sustainability of the target species or negatively impact on by-product, by-catch, protected species or the ecosystem. The changes to the SBSMF Management Plan and other subsidiary legislation summarised in Section 2 have improved the sustainable use of the SBSMF.

- 2. DFWA to incorporate into the management regime, an objective to minimise protected/listed species interactions, to minimise or maintain at sustainable levels the take of other non-retained species and to minimise impacts on the marine environment.**

The compulsory Daily/trip SBSMF Logbook implemented in January 2008 includes a specific section where any interactions with protected or listed species can be recorded. Any interactions would be recorded in the logbook on a daily basis and on a 10x10nm spatial scale, as opposed to the previous Catch and Effort Statistical forms used for reporting, which were submitted on a monthly basis and a 60x60 nautical mile scale. No interactions with protected or listed species have been reported by operators or observed by Departmental research officers since the last WTO assessment.

Operators in the SBSMF may only use hook and line to catch fish, which has minimal impact on the sea floor. Wire traces are not permitted in the SBSMF to minimise the capture of shark species (all sharks must be returned to sea if captured). Heavy sinkers and the proximity of the hydraulic handlines to the sides of the vessel prevents interactions with sea birds. On-board sampling by Departmental officers has indicated low numbers of non-retained species, such as undersize finfish. The incidence of capture of non-retained species, such as northwest blowfish has been considered so low as to not warrant further action.

3. DFWA, in its Annual State of the Fisheries Report, to report on the performance of the fishery against performance measures that relate to the sustainability of the fishery.

A description of the status of the Fishery, catch and effort information, performance of the fishery against objectives and relevant research is reported annually in the Department's SoF Report. The five reports since the last assessment can be found at Appendix 1 or via the following links:

- 2007/2008 State of the Fisheries Report
- 2006/2007 State of the Fisheries Report
- 2005/2006 State of the Fisheries Report
- 2004/2005 State of the Fisheries Report
- 2003/2004 State of the Fisheries Report

The performance measure for the SBSMF is that the catch rate for pink snapper for the peak months (June – July) should not fall below 500 kg/standard boat day. The following catch rates are summarised from the SoF Report.

Table 1. Summary of catch rates (June/July) and estimated unexploited spawning biomass levels for the SBSMF pink snapper stock.

Year	Catch rate (kg snapper per boat per day)	Unexploited spawning biomass level
2003	473 kg/day	N/A (age structured model not yet developed)
2004	465 kg/day	~22%
2005	491 kg/day	~24%
2006	614 kg/day	~27-28%
2007	523 kg/day	
2008	600 kg/day	~30%

As reported in the SoF Report, the breeding stock level for the oceanic snapper stock was estimated to be below the 'threshold' level (30% of the unexploited (1952) spawning biomass) level but recovering towards the 'target' (40% of the unexploited spawning biomass). The objective for the SBSMF is to assist the breeding stock (spawning biomass) to recover and be maintained at or above 40% of the unexploited spawning biomass level by 2014 (with a probability of 50%).

4. If there is a breach in a performance measure, this will be reported in the State of the Fisheries Report. If a breach materially affects the sustainability of the target species or negatively impacts on by-product, by-catch, protected species or the habitat, the breach will be reported to the Minister for Fisheries within 3 months for subsequent management review and action with timeframes for implementation.

Based on 2005/06 data, the pink snapper stock had recovered to between 27-28% of its 1952 (unexploited) spawning biomass, an increase from approximately 22% spawning biomass in 2004. However, the stock was not recovering as quickly as was expected. The (then) Minister for Fisheries was made aware of the slower recovery rate than expected and decided a further 18% quota reduction was necessary. The quota reduction was legislated in April 2007. The Chief Executive Officer (CEO) of the Department made DEWHA aware of the slower than expected recovery rate of the pink snapper stock in a letter dated 23 October 2007.

The Minister or CEO of the Department also approved the actions listed in Section 2 in order to assist the pink snapper stock to recover.

5. The ESD report, including all performance measures, responses and information requirements, to be formally incorporated into the management regime and decision making process.

In consultation with relevant stakeholders, the Department is progressing the development of formal policy guidelines for all Western Australian commercial fisheries that will include ecological, economic and social objectives and performance indicators. In the interim, the Department reports against performance indicators for the SBSMF in the SoF Report.

6. DFWA to ensure, where appropriate, that any relevant indigenous, conservation, recreational and world heritage interests in the fishery are considered through consultative mechanisms.

The central Recreational Fishing Advisory Committee (RFAC), Carnarvon RFAC, Denham RFAC's and *Recfishwest* were briefed on the commercial sector quota reductions and the slower than expected recovery rate of pink snapper in the SBSMF. The recreational sector was involved in and consulted over the recreational bag limit reductions in 2004 and 2006.

The Department's Regional Manager, Gascoyne is an observer on the Shark Bay World Heritage Property Area Community Consultative Committee and the Department has a member on the Shark Bay World Heritage Property Area Scientific Advisory Committee. Local indigenous representatives and conservation interests are represented on the committees. The Department provides advice on matters relevant to the World Heritage Area and considers the issues raised by committee members. .

7. DFWA to complete the formal compliance risk assessment and develop the compliance performance measures for the ESD report.

A comprehensive compliance risk assessment was undertaken in the SBSMF. The Department developed a matrix of risks and mitigation strategies to address the potential compliance issues identified in 2006. A copy of this matrix has been provided to DEWHA, however, it is not appropriate that the compliance strategies or risk matrix be made publicly available.

8. DFWA to establish a program to monitor the length frequency distribution for recreationally (derived mainly from charter boat catch) and commercially caught snapper to consider the impacts of fish mortality on snapper populations and develop appropriate management measures, if needed, to deal with this issue.

The Department has been monitoring the length frequencies of commercially caught snapper, which has represented ~90% of the total annual catch, using onboard observers that measure all fish caught at sea. Sampling of landed catches has also occurred since 2003. From data collected between 2003-2007, the average return rate of fish to the sea below the minimum legal length on commercial vessels was estimated at between 6% and 16%.

Length frequency information for the charter vessels operating in the Gascoyne has been obtained via crews measuring snapper catches on a voluntary basis (no information available on proportion of undersized fish returned) as well as from samples of fish frames donated by some charter operators.

Length frequency information for recreational vessels is available via a voluntary recreational fishing logbook that was developed as part of the Department's Research Angler Program

that has been in operation in the Gascoyne since 2004. Information on numbers and lengths of returned snapper is available from the logbook data and, for vessels landing at Denham (since 2005) only, via compulsory returns required under an exemption monitoring process.

The Department is currently exploring how information on return rates of undersize pink snapper and depth-related mortality for pink snapper can be adequately incorporated into the SBSMF stock assessment model. This will be resolved and reported by the next full stock assessment review (i.e. in 2012).

9. The impacts (take and incidental mortality) of recreational and other commercial fishing activities (trawling by both Commonwealth and State vessels and state wetline fishers) to be taken into account by DFWA when setting the TAC.

All known forms of snapper mortality are included for the purposes of operating the age-structured stock assessment model for the oceanic pink snapper stock and setting the Total Allowable Commercial Catch.

The recreational catch of oceanic pink snapper taken by private vessels (excludes charter vessels) in waters off Shark Bay (excludes inner gulfs) was estimated at ~ 40 tonnes from a creel survey conducted in 1998/99. This figure was used in the stock assessment model from 2004 to 2007. Based on results from the most recent creel survey conducted in 2007/08, the estimated recreational oceanic pink snapper catch taken in these same waters was ~ 50 tonnes. Catches taken by licensed-charter vessels in these waters over a similar period has ranged between 27 tonnes (2003) and 22 tonnes (2007).

Catches of pink snapper taken by wetline fishers in the 27nm area between Pt Amherst (23° 34'S) and the Point Maud commercial fishing closure (23° 07'S) and between 26°30'S (the southern boundary of the SBSMF) and 26°S are accounted for in the stock assessment model. Wetline activity within the waters of the SBSMF ceased with the introduction of a Section 43 prohibition in 2004.

Under the Offshore Constitutional Settlement, trawlers licensed by the Australian Government may operate in the region outside the 200 metre isobath as part of the Western Deepwater Trawl Fishery (WDWTF). In 2006, licensed vessels reported a total catch of less than half a tonne of pink snapper but the quantity of pink snapper returned to the water is unknown. The Australian Fisheries Management Authority (AFMA) has not been forthcoming in reporting data on catches and discards of finfish by the WDWTF to the Department because this information would breach AFMA's confidentiality policy (i.e. less than five operators have been active in the WDWTF). The Department will continue to request these data are provided by AFMA to include these catches in the stock assessment model.

The effects of the prawn and scallop trawl fisheries on the stock of pink snapper in Denham Sound were investigated (see link below; Moran and Kangas, 2003). Trawl vessels were estimated to reduce the annual yield of the adult pink snapper stock in Denham Sound by between 2.5 and 4.2 tonnes as a result of the bycatch of juveniles in the trawl fishery.

<http://www.fish.wa.gov.au/docs/frf/frb031/index.php>

Note that the pink snapper stock in Denham Sound is a separate stock to the oceanic SBSMF pink snapper stock.

10. Within 12 months DFWA to incorporate a precautionary spawning biomass performance measure into the ESD report to ensure the sustainability of the fishery.

An annual review of the performance of the Fishery against the CPUE performance measure has been provided in the SoF Report, which can be found at Appendix 1 or via the following links:

2007/2008 State of the Fisheries Report
2006/2007 State of the Fisheries Report
2005/2006 State of the Fisheries Report
2004/2005 State of the Fisheries Report
2003/2004 State of the Fisheries Report

The Department uses the 30% spawning biomass level as the trigger limit and the 40% spawning biomass level as the target limit for all of its major finfish fisheries. If a stock falls below the 30% biomass level, management action is required. A review of the causes is conducted and a determination is made as to whether management action is required.

11. DFWA to implement a monitoring program sufficient to identify long-term trends in bycatch to ensure that information used in the risk assessment for the fishery remains based on accurate and current data.

On-board research monitoring has continued in the SBSMF since 2003. Departmental observers are on board commercial vessels between 1 and 6 trips per year. Information is collected on the size-frequency, distribution and abundance of pink snapper and other demersal species. This information is used in conjunction with the daily fishing logbooks and monthly catch and effort returns provided by all fishers to ensure catch and effort levels remain sustainable. Data are analysed on an annual basis, with the stock assessment model re-run every two to three years.

A research strategy to identify research information needs and priorities to meet the management information, stock assessment and performance measurement needs of the Fishery, was developed by Moran *et al.* 2003 FRDC Project no. 2000/138 (Appendix 3)

12. DFWA to provide a mechanism which allows fishers to record interactions with protected/listed species. DFWA to implement an education program to ensure that industry has the capacity to make these reports at an appropriate level of accuracy.

No interactions with protected or listed species have been reported by operators or observed by Departmental research officers since the last assessment.

The SBSMF Daily Logbook used by all operators was produced in January 2008 and includes a section where operators can record any interactions with protected or listed species. Research technicians aboard quarterly sampling trips and management staff have helped educate skippers about reporting any such interactions to DEWHA.

All licence holders have been issued the NHT published "Protected Marine Species Identification Guide" for reference when reporting any interactions with listed/protected species.

4. CONCLUSION

This report should provide sufficient information for DEWHA to re-assess the SBSMF against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *EPBC Act 1999*. However, should you require any further information please contact Matt Stadler on (08) 9941 1185 or via email Matthew.Stadler@fish.wa.gov.au.

5. APPENDICES

- 1. Copies of the SBSMF Annual Reports from the State of the Fisheries Report over the past five years.**
- 2. 2009 Shark Bay oceanic pink snapper stock assessment Report**
- 3. Moran et al. 2005**
- 4. Ecological Risk Assessment: Risk Rating Re-Assessment**